MICROSENS

Media Converter/Signal Repeater Module

Overview

Media Converter/Signal Repeater module is a part of MICROSENS 10G Transport Platform, a high performance and flexible carrier-class transmission system. The 10G Transport Platform enables increasing transport capacitities in CWDM, DWDM and SDH networks. The use of wide range TDM modules permits to reduce the number of necessary wavelengths and to decrease the overall cost of the application. Ethernet over SDH modules enable using exisiting SONET/SDH infractructure for IP transmission.

The general features of the system:

- 19“ 2U Chassis with 5 module slots and management card
- Max. 5x single size modules f.ex. 2x double size + 1x single size module
- Hot swappable modules & power supplies
- Redundant power supplies with -48 VDC input (opt. 230 VAC)
- Exchangeable air- and filter module
- Wide range of functional xWDM and TDM modules available

The functional modules of 10G Transport Platform include:

- TDM 8x GBE or 8x GFC to 10G/OC-192/STM-64
- TDM 5x GBE or 5x 2GFC to OC-192/STM-64
- TDM 4x OC-48/STM-16 to 10G/OC-192/STM-64
- TDM 2x GBE and 2x GFC to OC-48/STM-16
- 10G transponder with 3R, XFP and fixed Laser Versions
- 10G protocol converter 10G LAN to 10G WAN (OC-192/STM-64)
- DWDM MUX/DeMUX, OADMs, EDFAs

Introduction

Media Converter/Signal Repeater range is a MICROSENS 10G Transport Platform allowing Media conversation and Retiming, Reshaping and Retransmission of the signal from 155 Mb/s up to 2.5 Gb/s.

Features

- Media Converter
- Signal repeater with 3R functions:
  - Retiming
  - Reshaping
  - Retransmitting
- Supports the following protocols:
  - OC-3/STM1
  - OC-12/STM4
  - OC-48/STM16
  - GbE
  - 1GFC
  - 2GFC
  - Fast Ethernet
  - OC-3/STM1-FEC
  - OC-12/STM4-FEC
  - OC-48/STM16-FEC
- SFP for Line 1 and Line 2 physical interface
- Digital Diagnostic Monitoring information from SFP

System description

The block diagram for the MS430580M is given in Figure 1. The MS430580M is a bi-directional device that offers twice the same media convertion/regeneration functionnality

- From one interface input signal (Line 1 or Line 2) to one interface output signal (Line 2 or Line 1).

The MS430580M includes also several sections composed of

- Controller block, providing interfacing to the MS module series chassis controller board hosting the SNMP Agent.
- Power supplies: generates different internal power supplies from the -48V of the MICROSENS chassis backplane

- Front panel LEDs indicating the status of the interfaces and the MS430580M common functions

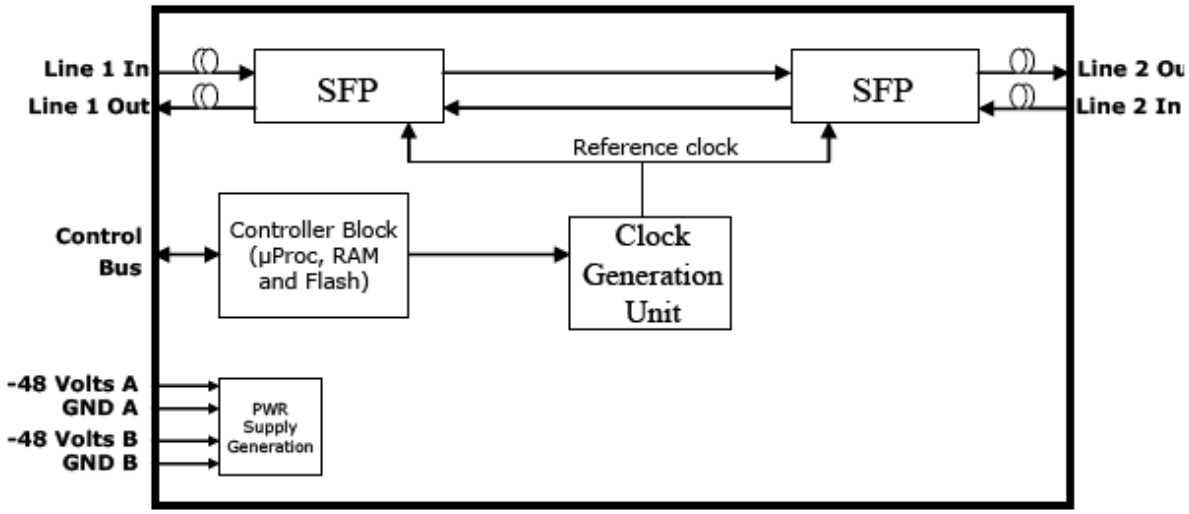

Figure 1: MS430580M Block diagram.

Media converter / Regeneration description

The received signal is first converted from optical signal to electrical signal through the SFP interface. Then the electrical signal is converted to an optical signal through the second SFP interface.
These two conversions (optical to electrical and then electrical to optical) perform a retiming, reshaping and retransmission of the optical signal from the Line 1 (or Line 2) input to the Line 2 (or Line 1) output.
Upon the SFP type used on Line 1 and Line 2, it is possible to perform, together with the signal regeneration, a media convertion (850nm to 1310nm, CWDM to DWDM, etc).

The following alarms are provided to the controller block:
Line 1 and Line 2 Loss of incoming Signal
Line 1 and Line 2 Laser Shutdown
The following measures are provided to the controller block:

- SFP temperature in °C
- SFP voltage in V
- SFP receive power in dBm
- SFP transmit power in dBm
- SFP laser pump current (bias) in mA

Clock Generation Unit
The Clock Generation Unit provides the reference clock to the Line 1 and Line 2 optical interfaces according to the parameter given by the Controller Block. The reference clock is internal to the MS430580M and has a stability of +/- 50 ppm. The Clock

Generation Unit can provide a reference clock to supLine 1 bitrate from 125 Mb/s up to 2.67 Gb/s. Therefore the MS430580M can support the following protocols:

Protocol	Bitrate
Fast Ethernet	125 Mb/s
OC-3/STM1	155.52 Mb/s
OC-3/STM1-FEC	166.62 Mb/s
OC-12/STM4	622.08 Mb/s
OC-12/STM4-FEC	666.51 Mb/s
1GFC	1.0625 Gb/s
GbE	1.25 Gb/s
2GFC	2.125 Gb/s
OC48/STM16	2.448 Gb/s
OC48/STM16-FEC	2.666 Mb/s

Controller Block

The controller block is composed of a microprocessor associated with Flash and RAM memories. The controller block collects information from different functional blocks and configures the HW according to a configuration file received. The raw information (alarms, monitoring, inventory) generated by the HW are processed by the microprocessor and delivered to the MICROSENS chassis Management Board as high level consolidated data.

Interface Specifications

Line 1 and Line 2 interfaces are provided by SFP transceivers. The optical characteristics are therefore given in the data sheet of the SFPs plugged into the MS430580M module.

SNMP User Manual

Access Configuration

Certain aspects of the Line 1 and Line 2 are user modifiable. In the following procedures the modifications are indicated at bit level. Take note of your SNMP manager's requirements. For example setting the bits 6, 3, 2 and 0 to 1 will yield the following values:

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Bit Number
0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	Binary
4D																Hexadecimal
77																Decimal

Line 1 optical interface Configuration
One object is dedicated to the Line 1 optical interface configuration:

- ms430580mCfgportaTrscvCtrl

  This allows the configuring of the initialisation of the Line 1 SFP laser state.
  Location: \microsens\modulems430580m\ms430580mConfig\ms430580mCfgStartup\ ms430580mtableclientStartup\

The following table details the meaning of each bit as well as the default values:

ms430580mCfgportaTrscvCtrl

Bit	Default value	Bit Name	Description
Bit 0	0	Line 1 SFP Laser Off	Line 1 SFP Laser state: 0: SFP Laser ON 1: SFP Laser OFF
Bit 7-1	0000000	Reserved	Set to Default value
Bit 15-8	00000000	Reserved	Set to Default value

Line 2 optical interface Configuration
One object is dedicated to the Line 2 optical interface configuration:

- ms430580mCfgportbTrscvCtrl

  This allows the configuring of the initialisation of the Line 2 SFP laser state.
  Location: \microsens\modulems430580m\ms430580mConfig\ms430580mCfgStartup\ ms430580mtablelineStartup\

The following table details the meaning of each bit as well as the default values:

ms430580mCfgportbTrscvCtrl

Bit	Default value	Bit Name	Description
Bit 0	0	Line 2 SFP Laser Off	Line 2 SFP Laser state: 0: SFP Laser ON 1: SFP Laser OFF
Bit 7-1	0000000	Reserved	Set to Default value
Bit 15-8	00000000	Reserved	Set to Default value

Client/Line bitrate Configuration

One object is dedicated to the client/line bitrate configuration:

- ms430580mCfgbitrateSelect

This allows the configuring of the bitrate for the Line 1 and Line 2.
Location: \microsens\modulems430580m\ms430580mConfig\ms430580mCfgStartup\ ms430580mtablelineStartup\

The following table details the meaning of each bit as well as the default values:

ms430580mCfgprotocolSelect

Bit	Default value	Bit Name	Description
Bit 3-0	0000	Line 1 and Line 2 bitrate	Bitrate selection 0: 2.488 Gb/s (OC-48/STM16) 1: 1.25 Gb/s (GbE) 2: 622.08 Mb/s (OC-12/STM4) 3: 155.52 Mb/s (OC-3/STM1) 4: 2.125 Gb/s (2GFC) 5: 1.0625 Gb/s (1GFC) 7: 125 Mb/s (Fast Ethernet) 8: 2,666 Mb/s (OC-48/STM16-FEC) 9: 666.51 Mb/s (OC-12/STM4-FEC) 10: 166.62 Mb/s (OC-3/STM1-FEC)
Bit 7-4	0000	Reserved	Set to Default value
Bit 15-8	00000000	Reserved	Set to Default value

How to modify the Configuration

The following procedure outlines how to modify any configuration. This can be performed at any time, keeping in mind that the cold reset will affect the traffic.

Note
This is module type dependant. Consu lt the table in the Description section to determine if it is applicable or not. The following modifications may be achieved by using control objects in:
...\microsens\modulems430580m\ms430580mcontrolsWrite\
However modifications made in this way are lost following a reset.

The Line and Client configuration modification can be performed at the same time and applied at the same time with one reset. Traffic implications will depend on your choice of reset.

Procedure

- Ensure that the correct module is selected for management. Consult the object:
  - mgnt2GigmSelectedBoard

  Location:…\microsens\mgnt2\mgnt2SNMPAgentData\ mgnt2ModulesManagement\
- Change if necessary.
- Determine a value corresponding to the configuration profile you require.
- Perform an SNMP SET to write the value corresponding to the required configuration profile into the SNMP agent.
- Perform a SET to "on" the object:
  - ms430580mCfgWriteConfiguration

  Location: ...\microsens\modulems430580m\ms430580mConfig\
  This will load the new configuration from the SNMP agent to the modules RAM.
- Transfer the new configuration into the module using the object:
  - ms430580mCtrlConfFlash

  Location:
  ...\microsens\modulems430580m\ms430580mcontrolsWrite\ms430580mCtrlOther\ ms430580mCtrlsynth0\
- Restart the module using a cold reset or by powering down/up to apply the configuration modification. Reset information can be found in the Software management section.

  Note
  At that point, configuration 2 becomes the default configuration of the MS module.

End procedure

Management

Inventory

Accessing the inventory allows the user to obtain information on the modules current hardware and software status. The objects described below may be found in:
…\microsens\modulems430580m\ms430580mri\

Note
Before consulting the inventory ensure that the correct module is selected. Consult the object mgnt2GigmSelectedBoard

Location…
\microsens\mgnt2\mgnt2SNMPAgentData\mgnt2ModulesManagement\
Change if necessary.

The following are inventory examples:

ms430580mRinvHwPlatform
This object returns information relating to the hardware platform.
MICROSENS PLATFORM
Vendor: MICROSENS
Mnemonic: MS430580M
Part Number: 2MS00072AAAA01
Serial Number: 000010
Date Code (yymmddww): 06160104

ms430580mRinvReloadInventory
Setting this object triggers an inventory read from the module to the agent, (refresh).

ms430580mRinvSwPlatform
Module software package description.
SW PACKAGE
Mnemonic: MS430580M
Part Number: 5MS07000AAAA01
Release date(yymmdd): 060509
SW Part Number: 3SW07001AAAA
Version Number: 02
Release date(yymmdd): 060510

ms430580mRinvPortASFP
This object returns information relating to the Line 1 SFP in the Module with the following headings:

Vendor:
Part Number:
Revision Level:
Serial Number:
Date Code (yymmdd):

ms430580mRinvPortBSFP
This object returns information relating to the Line 2 SFP in the Module with the following headings:

Vendor:
Part Number:
Revision Level:
Serial Number:
Date Code (yymmdd):

Alarms

In order to retrieve Alarm status information a polling mechanism must be put in place. The appearance of a trap message signals the occurrence of an Alarm.

The following table lists the possible alarms and recommended actions:

NAME	DESCRIPTION	ACTION
ms430580mAlmModuleGlobFailure	Module Failure: This OID is set on detection of a failure originating from the MS module	Correlate all alarms. If Alarm persists change the module.
ms430580mAlmSynUnlock	Synthesizer not locked: This OID indicates that the frequency synthesizer is not locked.	No action information only.
ms430580mAlmDefFuseA	Fuse A fail: This OID indicates that the fuse of the power input A is in fail condition	Correlate all alarms. If Alarm persists change the module.
ms430580mAlmDefFuseB	Fuse B Fail: This OID indicates that the fuse of the power input B is in fail condition	Correlate all alarms. If Alarm persists change the module.
ms430580mAlmLine1TxPwLowWng	TRSCV 1 Tx Power Low warning: Warning indicating that the transceiver output power of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1TxPwrHighWng	TRSCV 1 Tx Power High warning: Warning indicating that the transceiver output power of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1TxBiasLowWng	TRSCV 1 Bias Low warning: Warning indicating that the transceiver laser bias current of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1TxBiasHighWng	TRSCV 1 Bias High warning: Warning indicating that the transceiver laser bias current of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1TempLowWng	TRSCV 1 Temp Low warning: Warning indicating that the transceiver temperature of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings and Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TempHighWng	TRSCV 1 Temp High warning: Warning indicating that the transceiver temperature of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1RxPwrLowWng	TRSCV 1 Rx Power Low warning: Warning indicating that the transceiver input power of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.

NAME	DESCRIPTION	ACTION
ms430580mAlmLine1RxPwrHighWng	TRSCV 1 Rx Power High warning: Warning indicating that the transceiver input power of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1CdrLossofsignal	Line 1 CDR Loss of Signal: This OID indicates that a Loss of electrical signal is detected on the Line 1 CDR	Check client status. Carry out necessary maintenance procedures.
ms430580mAlmLine1CdrLossoflock	Line 1 CDR Loss of Lock: This OID indicates that the Line 1 CDR is not locked	Check client status. Carry out necessary maintenance procedures.
ms430580mAlmLine1CdrRefAbsent	Line 1 CDR Reference clock absent: This OID indicates that the CDR reference clock is absent on Line 1	No action information only.
ms430580mAlmLine1TxPwrLowAla	TRSCV 1 Tx Power Low: Alarm indicating that the transceiver output power of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all. Carry out necessary maintenance procedures.
ms430580mAlmLine1TxPwrHighAla	TRSCV 1 Tx Power High: Alarm indicating that the transceiver output power of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TxBiasLowAla	TRSCV 1 Bias Low :Alarm indicating that the transceiver laser bias current of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TxBiasHighAla	TRSCV 1 Bias High: Alarm indicating that the transceiver laser bias current of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TempLowAla	TRSCV 1 Temp Low: Alarm indicating that the transceiver temperature of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TempHighAla	TRSCV 1 Temp High: Alarm indicating that the transceiver temperature of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1RxPwrLowAla	TRSCV 1 Rx Power Low: Alarm indicating that the transceiver input power of Line 1 is lower than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.

NAME	DESCRIPTION	ACTION
ms430580mAlmLine1RxPwrHighAla	TRSCV 1 Rx Power High: Alarm indicating that the transceiver input power of Line 1 is higher than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TrscvAbsent	Line 1 SFP not plugged: This OID indicates that the transceiver module 2 is not present.	Plug in the Optical Module. If Alarm persists change the optical component.
ms430580mAlmLine1TrscvDdmAbsent	DDM supported on Line 1 SFP: This OID indicates that the transceiver module 1 does not support Digital Diagnostic Monitoring Functions	If SFP supports DDM change the SFP, else ignore.
ms430580mAlmLine1HwFail	Line 1 HW Failure: This OID indicates a hardware failure on the Line 1	Correlate relevant alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1TrscvLsd	Line 1 SFP optical TX ON: This OID indicates the optical output power is off on Line 1	No action information only.
ms430580mAlmLine1TrscvDdmWarning	Warning DDM on Optical Module 1: This OID indicates a warning is present coming out of optical interface DDM on Line 1	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine1TrscvDdmAlm	Alarm DDM on Optical Module 1: This OID indicates an alarm is present coming out of optical interface DDM on Line 1	Correlate all alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1Fail	Line 1 Failure: This OID indicates a failure on the Line 1	Correlate relevant alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine1LasFail	Line 1 SFP Tx Failed: This OID indicates that the transmitter fails for the transceiver plugged into the Line 1 (this alarm reports the transmitter failure alarm generated by the transceivers)	Correlate relevant alarms. If Alarm persists replace the Client SFP.
ms430580mAlmLine1Los	Loss of Optical signal on Line 1: This OID indicates that no signal is present on thetransceiver 1	Check client status. Carry out necessary maintenance procedures.
ms430580mAlmLine2TxPwLowWng	TRSCV 2 Tx Power Low warning: Warning indicating that the transceiver output power of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2TxPwrHighWng	TRSCV 2 Tx Power High warning :Warning indicating that the transceiver output power of Line 2 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.

NAME	DESCRIPTION	ACTION
ms430580mAlmLine2TxBiasLowWng	TRSCV 2 Bias Low warning: Warning indicating that thetransceiver laser bias current ofLine 2 is lower than thethreshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2TxBiasHighWng	TRSCV 2 Bias High warning: Warning indicating that the transceiver laser bias current of Line 2 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2TempLowWng	TRSCV 2 Temp Low warning: Warning indicating that the transceiver temperature of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings and Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2TempHighWng	TRSCV 2 Temp High warning: Warning indicating that the transceiver temperature of Line 2 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2RxPwrLowWng	TRSCV 2 Rx Power Low warning: Warning indicating that the transceiver input power of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2RxPwrHighWng	TRSCV 2 Rx Power Highwarning: Warning indicating that the transceiver input power of Line 2 is higher than the threshold value written in the transceiver EEPROM	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2CdrLossofsignal	Line 2 CDR Loss of Signal: This OID indicates that a Lossof electrical signal is detectedon the Line 2 CDR	Check client status. Carry out necessary maintenance procedures.
ms430580mAlmLine2CdrLossoflock	Line 2 CDR Loss of Lock: This OID indicates that the Line 2 CDR is not locked	Check client status. Carry out necessary maintenance procedures.
ms430580mAlmLine2CdrRefAbsent	Line 2 CDR Reference clock absent: This OID indicates that the CDR reference clock is absent on Line 2	No action information only.
ms430580mAlmLine2TxPwrLowAla	TRSCV 2 Tx Power Low: Alarm indicating that the transceiver output power of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all. Carry out necessary maintenance procedures.
ms430580mAlmLine2TxPwrHighAla	TRSCV 2 Tx Power High: Alarm indicating that thetransceiver output power ofLine 2 is higher than thethreshold value written in thetransceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.

NAME	DESCRIPTION	ACTION
ms430580mAlmLine2TxBiasLowAla	TRSCV 2 Bias Low: Alarm indicating that the transceiver laser bias current of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2TxBiasHighAla	TRSCV 2 Bias High: Alarm indicating that the transceiver laser bias current of Line 2 is higher than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2TempLowAla	TRSCV 2 Temp Low: Alarm indicating that the transceiver temperature of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2TempHighAla	TRSCV 2 Temp High: Alarm indicating that the transceiver temperature of Line 2 is higher than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2RxPwrLowAla	TRSCV 2 Rx Power Low: Alarm indicating that the transceiver input power of Line 2 is lower than the threshold value written in the transceiver EEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2RxPwrHighAla	TRSCV 2 Rx Power High: Alarm indicating that the transceiver input power of Line 2 is higher than the thresholdvalue written in the transceiverEEPROM	Correlate all Alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2TrscvAbsent	Line 2 SFP not plugged: This OID indicates that the transceiver module 2 is not present	Plug in the Optical Module. If Alarm persists change the optical component.
ms430580mAlmLine2TrscvDdmAbsent	DDM supported on Line 2 SFP: This OID indicates that the transceiver module 2 does not support Digital Diagnostic Monitoring Functions	If SFP supports DDM change the SFP, else ignore.
ms430580mAlmLine2HwFail	Line 2 HW Failure: This OID indicates a hardware failure on the Line 2	Correlate relevant alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2TrscvLsd	Line 2 SFP optical TX ON: This OID indicates the optical output power is off on Line 2	No action information only.
ms430580mAlmLine2TrscvDdmWarning	Warning DDM on OpticalModule 2: This OID indicates awarning is present coming outof optical interface DDM onLine 2	Correlate all warnings. Carry out necessary maintenance procedures.
ms430580mAlmLine2TrscvDdmAlm	Alarm DDM on Optical Module 2: This OID indicates an alarm is present coming out of optical interface DDM on Line 2	Correlate all alarms. Carry out necessary maintenance procedures.

NAME	DESCRIPTION	ACTION
ms430580mAlmLine2Fail	Line 2 Failure: This OID indicates a failure on the Line 2	Correlate relevant alarms. Carry out necessary maintenance procedures.
ms430580mAlmLine2LasFail	Line 2 SFP Tx Failed: This OID indicates that the transmitter fails for the transceiver plugged into the Line 1 (this alarm reports the transmitter failure alarm generated by the transceivers)	Correlate relevant alarms. If Alarm persists replace the Client SFP.
ms430580mAlmLine2Los	Loss of Optical signal on Line 2: This OID indicates that no signal is present on the transceiver 2	Check client status. Carry out necessary maintenance procedures.

Traps

A trap is an unsolicited, asynchronous event that the MGNT generates to indicate a status change; e.g.: a trap is generated on the detection of a start of an alarm and an end of an alarm.

> Note
> It is important to set the IP address of t he manager correctly in order to receive the traps.

There are two types of trap:

- Line 1 traps originating from Line 1 problems.
- Line 2 traps originating from Line 2 problems.

These are further categorised as follows:

- Critical: –Traffic affecting, demanding immediate attention.
- Urgent: –Indicating that maintenance is required.
- Non-urgent: – Warning, information, non traffic affecting origin DDM.

The binding information that accompanies a trap is for information only and should be used to make the alarm polling more efficient.

The following table lists the possible traps originating from a MS430580M and their contributing alarms.

MS430580MTraps		
Name **Description**	**Bindings**	**Action**
ms430580mPortaTrapNotUrgentGoesOn **Not urgent Line 1 fault is activated**	ms430580mAlmPortaTrscvDdmWarning ms430580mtrapBoardNumber	Consult Alarms. Correlate warnings originating from the line. Carry out necessary maintenance procedures.
ms430580mPortaTrapNotUrgentGoesOff **Not urgent Line 1 fault disappeared**	ms430580mAlmPortaTrscvDdmWarning ms430580mtrapBoardNumber	No Action.
ms430580mPortaTrapUrgentGoesOn **Urgent Line 1 fault is activated**	ms430580mAlmPortaTrscvDdmAlm ms430580mtrapBoardNumber	Consult Alarms. Correlate alarms originating from the line. Carry out necessary maintenance procedures.
ms430580mPortaTrapUrgentGoesOff **Urgent Line 1 fault disappeared**	ms430580mAlmPortaTrscvDdmAlm ms430580mtrapBoardNumber	No Action.
ms430580mPortaTrapCritGoesOn **Critical Line 1 fault is activated**	ms430580mAlmPortaFail ms430580mAlmPortaHwFail ms430580mtrapBoardNumber	Consult Alarms. Correlate alarms originating from the MS module. Carry out necessary maintenance procedures.
ms430580mPortaTrapCritGoesOff **Critical Line 1 fault disappeared**	ms430580mAlmPortaFail ms430580mAlmPortaHwFail ms430580mtrapBoardNumber	No Action.
ms430580mPortbTrapNotUrgentGoesOn **Not urgent Line 2 fault is activated**	ms430580mAlmPortbTrscvDdmWarning ms430580mtrapBoardNumber	Consult Alarms. Correlate warnings originating from the port. Carry out necessary maintenance procedures.
ms430580mPortbTrapNotUrgentGoesOff **Not urgent Line 2 fault disappeared**	ms430580mAlmPortbTrscvDdmWarning ms430580mtrapBoardNumber	No Action.
ms430580mPortbTrapUrgentGoesOn **Urgent Line 2 fault is activated**	ms430580mAlmPortbTrscvDdmAlm ms430580mtrapBoardNumber	Consult Alarms. Correlate alarms originating from the port. Carry out necessary maintenance procedures.
ms430580mPortbTrapUrgentGoesOff **Urgent Line 2 fault disappeared**	ms430580mAlmPortbTrscvDdmAlm ms430580mtrapBoardNumber	No Action.
ms430580mPortbTrapCritGoesOn **Critical Line 2 fault is activated**	ms430580mAlmPortbFail ms430580mAlmPortbHwFail ms430580mtrapBoardNumber	Consult Alarms. Correlate alarms originating from the MS module. Carry out necessary maintenance procedures.
ms430580mPortbTrapCritGoesOff **Critical Line 2 fault disappeared**	ms430580mAlmPortbFail ms430580mAlmPortbHwFail ms430580mtrapBoardNumber	No Action.
ms430580mPowerTrapUrgentGoesOn **Urgent power fault is activated**	ms430580mAlmDefFuseA ms430580mAlmDefFuseB ms430580mtrapBoardNumber	Consult Alarms. Correlate alarms originating from the MS module. Carry out necessary maintenance procedures.
ms430580mPowerTrapUrgentGoesOff **Urgent power fault disappeared**	ms430580mAlmDefFuseA ms430580mAlmDefFuseB ms430580mtrapBoardNumber	No Action.

Software Management

Hardware Reset

A Hardware reset may be performed on the MS430580M. This operation is performed by extracting and re-inserting the MS430580M in the M430500M Chassis. The following

procedure describes the steps to follow to perform a hardware reset of the MS430580M module.

Procedure

- Using a flat head screwdriver, loosen the two holding screws on the frontplate, located at the top right-hand and bottom left-hand corners.
- Slide out the module for few centimetres
- Wait for 15 seconds

  Warning

  The wait time of 15 seconds is mandato ry to insure to correct detection of the module extraction and re-insertion. Re-inserting the MS430580M module to early may casue communication problem between the MS430580M module and the management board.
- Slide in the module in the MS430500M chassis slot.
- Check the module has been correctly detected by the MGNT board using the object:
  - mgnt2GigmBoardTable

  Location:

  …\microsens\mgnt2\mgnt2SNMPAgentData\mgnt2ModulesManagement\

  Note

  Use the MS module series chassis User Manu al SNMP for details about this OID.
- Using a flat head screwdriver; tighten the holding screw on the frontplate of module.

End procedure

Software Cold Reset

A software cold reset loads the software from the selected bank and the configuration into the operational memory. The configuration from conf2 is the first choice, if conf2 is empty then conf1; if conf1 is empty the default hardwired configuration is loaded. This reset is traffic affecting and takes 20 seconds to complete. The following outlines the steps to perform a Software cold reset on a MS430580M module:

Procedure

- Ensure that the correct module is selected for management. Consult the object:
  - mgnt2GigmSelectedBoard

  Location:

  …\microsens\mgnt2\mgnt2SNMPAgentData\mgnt2ModulesManagement\
- Change if necessary.
- Start the reset:

– Set to "on "the object: ms430580mCtrlColdReset

Location:

…\microsens\modulems430580m\ms430580mcontrolsWrite\ms430580mCtrlOther\ms430580mCtrlswMgnt

Once this change is recognised the module starts to reset. Visual indication:
The colour sequence of the SW led on the front panel of the module during a reset is:

- Green on > Red On > Green/Orange blinking > Green on

Under normal conditions all LEDs return to green when the reset is complete. The status of the Line and Client Port LEDs depend on the local configuration. Refer to LED status table. The duration of a Software Cold Reset on a MS430580M is approximately 25 seconds.

End procedure

Software Warm Reset

A warm reset only loads the selected software into the operational memory. This reset has no effect on the traffic takes approximately 20 seconds to complete.

Procedure

- Ensure that the correct module is selected for management. Consult the object:

  – mgnt2GigmSelectedBoard

  Location:

  …\microsens\mgnt2\mgnt2SNMPAgentData\ mgnt2ModulesManagement\

- Change if necessary
- Start the reset, set to "on "the object:

  – ms430580mCtrlWarmReset

  Location:

  ...
  \microsens\modulems430580m\ms430580mcontrolsWrite\ms430580mCtrlOther\ms430580mCtrlswMgnt

Once this change is recognised the module starts to reset. Visual indications:
The colour sequence of the SW led on the front panel of the module during a Warm Reset is:

- Green on > Red on > Green on

Under normal conditions all LEDs return to green when the reset is complete. The status of the Line and Client Port LEDs depend on the local configuration.

End procedure

Monitoring

In order to manage the various measurements available a polling mechanism is required, thereby allowing the uploading of several physical parameters such as SFP

temperature, optical input power, etc. provided by the DDM. The DDM or Digital Diagnostic Monitoring in each SFP provides real-time monitoring of voltage and temperature readings of each optical component, together with thresholds and alarms. A description of all the available measurements can be found in Appendixes.

The following describes the method of interpretation of the different types of measurements:

Temperature

The object:

- ms430580mMesrportaTemperature

Location:..\microsens\modulems430580m\ms430580mmeasures\ ms430580mMesrClient\

The object:

- ms430580mMesrportbTemperature

Location:..\microsens\modulems430580m\ms430580mmeasures\ ms430580mMesrLine\

Give the temperature value of the SFP plugged into Line 1 and Line 2, read from the Digital Diagnostic Monitoring (Unit = °C) . The following formula must be applied to the returned value in order to obtain the actual temperature:

T (°C) = MSB + LSB/256

Parameter	Meaning	Format
MSB	Most Significant Byte	Signed Byte
LSB	Least Significant Byte	Unsigned Byte

For example:

A listing of ms430580mMesrportaTemperature outputs the following:
***** SNMP QUERY STARTED *****
1: ms430580mMesrportaTemperature (integer) 11066
***** SNMP QUERY FINISHED *****
The value returned from the SFP in Line 1 is: 11066. This is a decimal value, the Hexadecimal equivalent is: 2B3A
2B (hex) = 43 (dec) and 3A (hex) = 58 (dec)
So applying the formula: T = 43 + 58/256
Gives an actual temperature of: + 43.23°C

Voltage

The object:

- ms430580mMesrportaVolt

Location:..\microsens\modulems430580m\ms430580mmeasures\ ms430580mMesrClient\

The object:

- ms430580mMesrportbVolt

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrLine\

Give the 3V3 voltage value of the SFP plugged into Line 1 and Line 2, read from the Digital Diagnostic Monitoring (Unit = V). The following formula must be applied to the returned value in order to obtain the actual voltage:

3V3 (Volts) = AV/10000

Parameter	Meaning	Format
AV	Article Value	Unsigned word (16 bits)

For example:

A listing of the ms430580mMesrportaVolt outputs the following:
***** SNMP QUERY STARTED *****
1: ms430580mMesrportaVolt (integer) 33094
***** SNMP QUERY FINISHED *****
The value returned from the SFP in Line 1 is: 33094.
So applying the formula: 3V3 (Volts) = 33094/10000
Gives an actual value of: 3.3094V

Bias

The object:

- ms430580mMesrportaTxBias

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrClient\

The object:

- ms430580mMesrportbTxBias

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrLine\

Give the bias value of the SFP plugged into Line 1 and Line 2, read from the Digital Diagnostic Monitoring (Unit = mA). The following formula must be applied to the returned value in order to obtain the bias:

Bias(mA) = AV/500

Parameter	Meaning	Format
AV	Article Value	Unsigned word (16 bits)

For example:

A listing of the ms430580mMesrportaTxBias outputs the following:
***** SNMP QUERY STARTED *****
1: ms430580mMesrportaTxBias (integer) 11046
***** SNMP QUERY FINISHED *****
The value returned from the SFP in Line 1 is: 11046.
So applying the formula: Bias(mA) = 11046/500
Gives an actual value of: 22.092mA

Transmit Power

The object:

- ms430580mMesrportaTxPower

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrClient\

The object:

- ms430580mMesrportbTxPower

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrLine\

This article gives the transmit power value of the SFP plugged into Line 1 and Line 2, read from the Digital Diagnostic Monitoring (Unit = dBm). The actual Transmit Power in dBm or mW can be obtained by applying the following formula to the returned value:

Tx_Pwr(mW) = AV/10000
Tx_Pwr(dBm) = 10xlog(AV/10000)

Parameter	Meaning	Format
AV	Article Value	Unsigned word (16 bits)

For example:

A listing of the ms430580mMesrportaTxPower outputs the following:
***** SNMP QUERY STARTED *****
1: ms430580mMesrportaTxPower (integer) 30
***** SNMP QUERY FINISHED *****
The value returned from the SFP in Line 1 is: 30.
So applying the formula: Tx_Pwr(mW) = 30/10000
Gives an actual value of: 0.003mW
And applying the formula: Tx_Pwr(dBm) = 10xlog(30/10000)
Gives an actual value of: -25.23dBm

Receive Power

The object:

- ms430580mMesrportaRxPower

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrClient\

The object:

- ms430580mMesrportbRxPower

Location:..\microsens\modulems430580m\ms430580mmeasures\
ms430580mMesrLine\

This article gives the receive power value of the SFP plugged into Line 1 and Line 2, read from the DDM (Digital Diagnostic Monitoring) (Unit = dBm). The actual Receive

Power in dBm or mW can be obtained by applying the following formula to the returned value:
Rx_Pwr(mW) = AV/10000
Rx_Pwr(dBm) = 10xlog(AV/10000)

Parameter	Meaning	Format
AV	Article Value	Unsigned word (16 bits)

For example:

A listing of the ms430580mMesrportaRxPower outputs the following:
***** SNMP QUERY STARTED *****
1: ms430580mMesrportaRxPower (integer) 10
***** SNMP QUERY FINISHED *****
The value returned from the SFP in Line 1 is: 10.
So applying the formula: Rx_Pwr(mW) = 10/10000
Gives an actual value of: 0.001mW
And applying the formula: Rx_Pwr(dBm) = 10xlog(10/10000)
Gives an actual value of: -30dBm

Appendixes

Laser Class

Laser Class	Risks	General Requirements
1	Considered safe to eye and Skin under all reasonably foreseeable conditions of operation.	Protective housing: may be required.

MS430580M Leds description

LED	Status	Condition
SW	Green On	Normal
	Red On	Init/ReBoot
HW	Green On	Normal
	Red On	Init./Reboot
Line 1 Los	Green	Normal
	Red	Line 1 Loss of Signal
Line 1 Fail	Green	Normal
	Red	Line 1 Failure
Line 2 Los	Green	Normal
	Red	Line 2 Loss of Signal
Line 2 fail	Green	Normal
	Red	Line 2 Failure

MS430580M MIB description

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.2	**ms430580malarms**		
1.3.6.1.4.1.20044.21.2.1	**ms430580mAlmOther**		
1.3.6.1.4.1.20044.21.2.1.1	**ms430580mAlmOtherNurg**		
1.3.6.1.4.1.20044.21.2.1.2	**ms430580mAlmOtherUrg**		
1.3.6.1.4.1.20044.21.2.1.3	**ms430580mAlmOtherCrit**		
1.3.6.1.4.1.20044.21.2.1.3.0	**ms430580mAlmsynthAlm0**		
1.3.6.1.4.1.20044.21.2.1.3.0.9	ms430580mAlmModuleGlobFailure	r	Module Failure: This OID is set on detection of a failure originating from the MS module
1.3.6.1.4.1.20044.21.2.1.3.0.14	ms430580mAlmSynUnlock	r	Synthesizer not locked: This OID indicates that the frequency synthesizer is not locked.
1.3.6.1.4.1.20044.21.2.1.3.0.15	ms430580mAlmDefFuseA	r	Fuse A fail: This OID indicates that the fuse of the power input A is in fail condition
1.3.6.1.4.1.20044.21.2.1.3.0.16	ms430580mAlmDefFuseB	r	Fuse B Fail: This OID indicates that the fuse ofthe power input B is in fail condition
1.3.6.1.4.1.20044.21.2.2	**ms430580mAlmClient**		
1.3.6.1.4.1.20044.21.2.2.1	**ms430580mAlmClientNurg**		
1.3.6.1.4.1.20044.21.2.2.1.20	**ms430580mAlmline1TrscvWarnDdm**		
1.3.6.1.4.1.20044.21.2.2.1.20.1	ms430580mAlmLine1TxPwLowWng	r	TRSCV 1 Tx Power Low warning: Warning indicating that the transceiver output power of Line 1 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.2.1.20.2	ms430580mAlmLine1TxPwrHighWng	r	TRSCV 1 Tx Power High warning: Warning indicating that the transceiver output power of Line 1 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.2.1.20.3	ms430580mAlmLine1TxBiasLowWng	r	TRSCV 1 Bias Low warning: Warning indicating that the transceiver laser bias current of Line 1 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.2.1.20.4	ms430580mAlmLine1TxBiasHighWng	r	TRSCV 1 Bias High warning: Warning indicating that the transceiver laser bias current of Line 1 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.2.1.20.7	ms430580mAlmLine1TempLowWng	r	TRSCV 1 Temp Low warning:Warning indicating that the transceiver temperature of Line 1 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.2.1.20.8	ms430580mAlmLine1TempHighWng	r	TRSCV 1 Temp High warning: Warning indicating that the transceiver temperature of Line 1 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.2.1.20.15	ms430580mAlmLine1RxPwrLowWng	r	TRSCV 1 Rx Power Low warning: Warning indicating that the transceiver input power of Line 1 is lower than the threshold value written in the transceiver EEPROM

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.2.2.3.8.1	ms430580mAlmLine1TrscvAbsent	r	Line 1 SFP not plugged :This OID indicates that the transceiver module 2 is not present.
1.3.6.1.4.1.20044.21.2.2.3.8.2	ms430580mAlmLine1TrscvDdmAbsent	r	DDM supported on Line 1 SFP :This OID indicates that the transceiver module 1 does not support Digital Diagnostic Monitoring Functions
1.3.6.1.4.1.20044.21.2.2.3.8.4	ms430580mAlmLine1HwFail	r	Line 1 HW Failure :This OID indicates a hardware failure on the Line 1
1.3.6.1.4.1.20044.21.2.2.3.8.5	ms430580mAlmLine1TrscvLsd	r	Line 1 SFP optical TX ON :This OID indicates the optical output power is off on Line 1
1.3.6.1.4.1.20044.21.2.2.3.8.9	ms430580mAlmLine1TrscvDdmWarning	r	Warning DDM on Optical Module 1: This OID indicates a warning is present coming out of optical interface DDM on Line 1
1.3.6.1.4.1.20044.21.2.2.3.8.10	ms430580mAlmLine1TrscvDdmAlm	r	Alarm DDM on Optical Module 1: This OID indicates an alarm is present coming out of optical interface DDM on Line 1
1.3.6.1.4.1.20044.21.2.2.3.8.12	ms430580mAlmLine1Fail	r	Line 1 Failure: This OID indicates a failure on the Line 1
1.3.6.1.4.1.20044.21.2.2.3.16	ms430580mAlmline1AccessioAlm		
1.3.6.1.4.1.20044.21.2.2.3.16.1	ms430580mAlmLine1LasFail	r	Line 1 SFP Tx Failed: This OID indicates that the transmitter fails for the transceiver plugged into the Line 1 (this alarm reports the transmitter failure alarm generated by the transceivers)
1.3.6.1.4.1.20044.21.2.2.3.16.4	ms430580mAlmLine1Los	r	Loss of Optical signal on Line 1: This OID indicates that no signal is present on the transceiver 1
1.3.6.1.4.1.20044.21.2.3	**ms430580mAlmLine**		
1.3.6.1.4.1.20044.21.2.3.1	**ms430580mAlmLineNurg**		
1.3.6.1.4.1.20044.21.2.3.1.28	**ms430580mAlmline2TrscvWarnDdm**		
1.3.6.1.4.1.20044.21.2.3.1.28.1	ms430580mAlmLine2TxPwLowWng	r	TRSCV 2 Tx Power Low warning: Warning indicating that the transceiver output power of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.28.2	ms430580mAlmLine2TxPwrHighWng	r	TRSCV 2 Tx Power High warning: Warning indicating that the transceiver output power of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.28.3	ms430580mAlmLine2TxBiasLowWng	r	TRSCV 2 Bias Low warning: Warning indicating that the transceiver laser bias current of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.28.4	ms430580mAlmLine2TxBiasHighWng	r	TRSCV 2 Bias High warning :Warning indicating that the transceiver laser bias current of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.28.7	ms430580mAlmLine2TempLowWng	r	TRSCV 2 Temp Low warning:Warning indicating that the transceiver temperature of Line 2 is lower than the threshold value written in the transceiver EEPROM

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.2.3.1.28.8	ms430580mAlmLine2TempHighWng	r	TRSCV 2 Temp High warning: Warning indicating that the transceiver temperature of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.28.15	ms430580mAlmLine2RxPwrLowWng	r	TRSCV 2 Rx Power Low warning: Warning indicating that the transceiver input power of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.28.16	ms430580mAlmLine2RxPwrHighWng	r	TRSCV 2 Rx Power High warning: Warning indicating that the transceiver input power of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.1.31	**ms430580mAlmline2CdrAlm**		
1.3.6.1.4.1.20044.21.2.3.1.31.1	ms430580mAlmLine2CdrLossofsignal	r	Line 2 CDR Loss of Signal :This OID indicates that a Loss of electrical signal is detected on the Line 2 CDR
1.3.6.1.4.1.20044.21.2.3.1.31.2	ms430580mAlmLine2CdrLossoflock	r	Line 2 CDR Loss of Lock :This OID indicates that the Line 2 CDR is not locked
1.3.6.1.4.1.20044.21.2.3.1.31.3	ms430580mAlmLine2CdrRefAbsent	r	Line 2 CDR Reference clock absent: This OID indicates that the CDR reference clock is absent on Line 2
1.3.6.1.4.1.20044.21.2.3.2	**ms430580mAlmLineUrg**		
1.3.6.1.4.1.20044.21.2.3.2.26	**ms430580mAlmline2TrscvAlmDdm**		
1.3.6.1.4.1.20044.21.2.3.2.26.1	ms430580mAlmLine2TxPwrLowAla	r	TRSCV 2 Tx Power Low: Alarm indicating that the transceiver output power of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.2.26.2	ms430580mAlmLine2TxPwrHighAla	r	TRSCV 2 Tx Power High: Alarm indicating that the transceiver output power of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.2.26.3	ms430580mAlmLine2TxBiasLowAla	r	TRSCV 2 Bias Low: Alarm indicating that the transceiver laser bias current of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.2.26.4	ms430580mAlmLine2TxBiasHighAla	r	TRSCV 2 Bias High: Alarm indicating that the transceiver laser bias current of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.2.26.7	ms430580mAlmLine2TempLowAla	r	TRSCV 2 Temp Low: Alarm indicating that the transceiver temperature of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.2.26.8	ms430580mAlmLine2TempHighAla	r	TRSCV 2 Temp High: Alarm indicating that the transceiver temperature of Line 2 is higher than the threshold value written in the transceiver EEPROM

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.2.3.2.26.15	ms430580mAlmLine2RxPwrLowAla	r	TRSCV 2 Rx Power Low: Alarm indicating that the transceiver input power of Line 2 is lower than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.2.26.16	ms430580mAlmLine2RxPwrHighAla	r	TRSCV 2 Rx Power High: Alarm indicating that the transceiver input power of Line 2 is higher than the threshold value written in the transceiver EEPROM
1.3.6.1.4.1.20044.21.2.3.3	**ms430580mAlmLineCrit**		
1.3.6.1.4.1.20044.21.2.3.3.7	**ms430580mAlmsynthAlm7**		
1.3.6.1.4.1.20044.21.2.3.3.7.1	ms430580mAlmLine2TrscvAbsent	r	Line 2 SFP not plugged: This OID indicates that the transceiver module 2 is not present.
1.3.6.1.4.1.20044.21.2.3.3.7.2	ms430580mAlmLine2TrscvDdmAbsent	r	DDM supported on Line 2 SFP: This OID indicates that the transceiver module 2 does not support Digital Diagnostic Monitoring Functions
1.3.6.1.4.1.20044.21.2.3.3.7.4	ms430580mAlmLine2HwFail	r	Line 2 HW Failure: This OID indicates a hardware failure on the Line 2
1.3.6.1.4.1.20044.21.2.3.3.7.5	ms430580mAlmLine2TrscvLsd	r	Line 2 SFP optical TX ON :This OID indicates the optical output power is off on Line 2
1.3.6.1.4.1.20044.21.2.3.3.7.9	ms430580mAlmLine2TrscvDdmWarning	r	Warning DDM on Optical Module 2: This OID indicates a warning is present coming out of optical interface DDM on Line 2
1.3.6.1.4.1.20044.21.2.3.3.7.10	ms430580mAlmLine2TrscvDdmAlm	r	Alarm DDM on Optical Module 2: This OID indicates an alarm is present coming out of optical interface DDM on Line 2
1.3.6.1.4.1.20044.21.2.3.3.7.12	ms430580mAlmLine2Fail	r	Line 2 Failure: This OID indicates a failure on the Line 2
1.3.6.1.4.1.20044.21.2.3.3.24	**ms430580mAlmline2AccessioAlm**		
1.3.6.1.4.1.20044.21.2.3.3.24.1	ms430580mAlmLine2LasFail	r	Line 2 SFP Tx Failed :This OID indicates that the transmitter fails for the transceiver plugged into the Line 1 (this alarm reports the transmitter failure alarm generated by the transceivers)
1.3.6.1.4.1.20044.21.2.3.3.24.4	ms430580mAlmLine2Los	r	Loss of Optical signal on Line 2 :This OID indicates that no signal is present on the transceiver 2
1.3.6.1.4.1.20044.21.3	**ms430580mmeasures**		
1.3.6.1.4.1.20044.21.3.1	**ms430580mMesrOther**		
1.3.6.1.4.1.20044.21.3.2	**ms430580mMesrClient**		
1.3.6.1.4.1.20044.21.3.2.16	ms430580mMesrline1Temperature	r	Line 1 SFP Temperature :This OID gives the temperature of the transceiver Line 1, read from the DDM (Digital Diagnostic Monitoring) (Unit = °C)
1.3.6.1.4.1.20044.21.3.2.17	ms430580mMesrline1Volt	r	Line 1 SFP Power Supply: This OID gives the voltage of the transceiver Line 1, read from the DDM (Digital Diagnostic Monitoring) (Unit = V)

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.3.2.18	ms430580mMesrline1TxBias	r	Line 1 SFP Laser bias: This OID gives the bias value of the transceiver Line 1, read from the DDM (Digital Diagnostic Monitoring) (Unit = mA)
1.3.6.1.4.1.20044.21.3.2.19	ms430580mMesrline1TxPower	r	Line 1 SFP Transmitted Power: This OID gives the transmit power value of the transceiver Line 1, read from the DDM (Digital Diagnostic Monitoring) (Unit = dBm)
1.3.6.1.4.1.20044.21.3.2.20	ms430580mMesrline1RxPower	r	Line 1 SFP Received Power: This OID gives the receive power value of the transceiver Line 1, read from the DDM (Digital Diagnostic Monitoring) (Unit = dBm)
1.3.6.1.4.1.20044.21.3.3	**ms430580mMesrLine**		
1.3.6.1.4.1.20044.21.3.3.24	ms430580mMesrline2Temperature	r	Line 2 SFP Temperature :This OID gives the temperature of the transceiver Line 2, read from the DDM (Digital Diagnostic Monitoring) (Unit = °C)
1.3.6.1.4.1.20044.21.3.3.25	ms430580mMesrline2Volt	r	Line 2 SFP Power Supply: This OID gives the voltage of the transceiver Line 2, read from the DDM (Digital Diagnostic Monitoring) (Unit = V)
1.3.6.1.4.1.20044.21.3.3.26	ms430580mMesrline2TxBias	r	Line 2 SFP Laser bias: This OID gives the bias value of the transceiver Line 2, read from the DDM (Digital Diagnostic Monitoring) (Unit = mA)
1.3.6.1.4.1.20044.21.3.3.27	ms430580mMesrline2TxPower	r	Line 2 SFP Transmitted Power :This OID gives the transmit power value of the transceiver Line 2, read from the DDM (Digital Diagnostic Monitoring) (Unit = dBm)
1.3.6.1.4.1.20044.21.3.3.28	ms430580mMesrline2RxPower	r	Line 2 SFP Received Power: This OID gives the receive power value of the transceiver Line 2, read from the DDM (Digital Diagnostic Monitoring) (Unit = dBm)
1.3.6.1.4.1.20044.21.6	**ms430580mcontrolsWrite**		
1.3.6.1.4.1.20044.21.6.1	**ms430580mCtrlOther**		
1.3.6.1.4.1.20044.21.6.1.0	**ms430580mCtrlsynth0**		
1.3.6.1.4.1.20044.21.6.1.0.1	ms430580mCtrlConfLoad	r/w	Load Configuration Tables: When set this enables loading from flash configuration1 into the module.
1.3.6.1.4.1.20044.21.6.1.0.9	ms430580mCtrlConfFlash	r/w	Write Configuration Tables: This bit saves the current configuration of the module as configuration in the flash.
1.3.6.1.4.1.20044.21.6.1.0.13	ms430580mCtrlConfClear	r/w	Clear Configuration Tables :This bit clears the configuration tables from configuration in the flash.
1.3.6.1.4.1.20044.21.6.1.4	**ms430580mCtrlsynth4**		
1.3.6.1.4.1.20044.21.6.1.4.1	ms430580mCtrlCorrelatOn	r/w	Enable Alarm Correlation: This OID enables the alarm correlation in the MS module.

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.6.1.4.2	ms430580mCtrlCorrelatOff	r/w	Disable Alarm Correlation :This OID disables the alarm correlation in the MS module.
1.3.6.1.4.1.20044.21.6.1.5	**ms430580mCtrlswMgnt**		
1.3.6.1.4.1.20044.21.6.1.5.2	ms430580mCtrlColdReset	r/w	MS module Cold Reset: This OID, when set, causes a cold reset of the Software. This reset is traffic affecting, and the configuration of Software is reloaded on start-up.
1.3.6.1.4.1.20044.21.6.1.5.3	ms430580mCtrlWarmReset	r/w	MS module Warm Reset: This OID, when set, causes a warm reset of the Software. This reset is not traffic affecting, and the configuration of the Sofwtare remains unchanged.
1.3.6.1.4.1.20044.21.6.1.64	**ms430580mCtrlledTest**		
1.3.6.1.4.1.20044.21.6.1.64.1	ms430580mCtrlGreenLed	r/w	Green Leds Test :This OID switches on all the green Leds as a test feature.
1.3.6.1.4.1.20044.21.6.1.64.2	ms430580mCtrlRedLed	r/w	Red Leds Test :This OID switches on all the red Leds as a test feature.
1.3.6.1.4.1.20044.21.6.1.64.3	ms430580mCtrlLedOff	r/w	Leds Off: This OID switches off all the Leds as a test feature.
1.3.6.1.4.1.20044.21.6.2	**ms430580mCtrlClient**		
1.3.6.1.4.1.20044.21.6.2.16	**ms430580mCtrlline1TrscvOnoff**		
1.3.6.1.4.1.20044.21.6.2.16.1	ms430580mCtrlLine1TrscvOnoff	r/w	Line 1 SFP Optical Laser OFF: This OID switches off the transceiver on Line 1
1.3.6.1.4.1.20044.21.6.3	**ms430580mCtrlLine**		
1.3.6.1.4.1.20044.21.6.3.24	**ms430580mCtrlline2TrscvOnoff**		
1.3.6.1.4.1.20044.21.6.3.24.1	ms430580mCtrlLine2TrscvOnoff	r/w	Line 2 SFP Optical Laser OFF: This OID switches off the transceiver on Line 2
1.3.6.1.4.1.20044.21.7	ms430580mri		
1.3.6.1.4.1.20044.21.7.2	ms430580mRinvReloadInventory	r/w	Reload the inventory: This OID triggers an inventory reload.
1.3.6.1.4.1.20044.21.7.4	ms430580mRinvHwPlatform	r	Module platform description: This OID contains the description of the Module.
1.3.6.1.4.1.20044.21.7.5	ms430580mRinvSwPlatform	r	SW platform description: This OID contains the description of the Software platform.
1.3.6.1.4.1.20044.21.7.6	ms430580mRinvLine1SFP	r	Inventory for the SFP: This OID contains the inventory for the Line 1 SFP
1.3.6.1.4.1.20044.21.7.7	ms430580mRinvLine2SFP	r	Inventory for the SFP: This OID contains the inventory for the Line 2 SFP
1.3.6.1.4.1.20044.21.9	**ms430580mConfig**		
1.3.6.1.4.1.20044.21.9.1	**ms430580mCfgLsd**		
1.3.6.1.4.1.20044.21.9.1.1	**ms430580mtableclientLsd**		
1.3.6.1.4.1.20044.21.9.2	**ms430580mCfgStartUp**		
1.3.6.1.4.1.20044.21.9.2.1	**ms430580mtableclientStartup**		
1.3.6.1.4.1.20044.21.9.2.1.2	ms430580mCfgline1TrscvCtrl	r/w	Default Settings on Line 1 : This register configures the default initialisation settings on Line 1.

OID	Name	Access	Description
1.3.6.1.4.1.20044.21.9.2.2	**ms430580mtablelineStartup**		
1.3.6.1.4.1.20044.21.9.2.2.2	ms430580mCfgline2TrscvCtrl	r/w	Default Settings on Line 2: This register configures the default initialisation settings on Line 2.
1.3.6.1.4.1.20044.21.9.2.2.18	ms430580mCfgbitrateSelect	r/w	Bitrate selection on Line 1/2: This OID register configure the bitrate for the client and lineinterface (0=STS48 : 2,4 to 2,7 Gb/s - 1=1GBE : 1,2 to 1,35 Gb/s - 2=STS12 : 600 to 675 Mb/s - 3=STS3 : 150 to 168 Mb/s - 4=2GFC : 2 to 2,4 Gb/s - 5=1GFC : 1,0 to 1,2 Gb/s - 6=500 to 600 Mb/s - 7=Fast Ethernet : 125 to 150 Mb/s - 8=STS48 + FEC : 2,4-2,7 Gb/s - 9=STS12 + FEC : 600-675 Mb/s - 10=STS3 + FEC : 150- 168 Mb/s).
1.3.6.1.4.1.20044.21.9.257	ms430580mCfgWriteConfiguration	r/w	Write configuration to module: This OID writes the complete configuration to the module
1.3.6.1.4.1.20044.21.10	**ms430580mtraps**		
1.3.6.1.4.1.20044.21.10.4	ms430580mtrapBoardNumber	r	Last module which generates a trap
1.3.6.1.4.1.20044.21.10.30	ms430580mLine1TrapNotUrgentGoesOn	n/a	Not urgent Line 1 default is activated
1.3.6.1.4.1.20044.21.10.31	ms430580mLine1TrapNotUrgentGoesOff	n/a	Not urgent Line 1 default disappeared
1.3.6.1.4.1.20044.21.10.32	ms430580mLine1TrapUrgentGoesOn	n/a	Urgent Line 1 default is activated
1.3.6.1.4.1.20044.21.10.33	ms430580mLine1TrapUrgentGoesOff	n/a	Urgent Line 1 default disappeared
1.3.6.1.4.1.20044.21.10.34	ms430580mLine1TrapCritGoesOn	n/a	Critical Line 1 default is activated
1.3.6.1.4.1.20044.21.10.35	ms430580mLine1TrapCritGoesOff	n/a	Critical Line 1 default disappeared
1.3.6.1.4.1.20044.21.10.40	ms430580mLine2NotUrgentGoesOn	n/a	Not urgent Line 2 default is activated
1.3.6.1.4.1.20044.21.10.41	ms430580mLine2NotUrgentGoesOff	n/a	Not urgent Line 2 default disappeared
1.3.6.1.4.1.20044.21.10.42	ms430580mLine2UrgentGoesOn	n/a	Urgent Line 2 default is activated
1.3.6.1.4.1.20044.21.10.43	ms430580mLine2UrgentGoesOff	n/a	Urgent Line 2 default disappeared
1.3.6.1.4.1.20044.21.10.44	ms430580mLine2CritGoesOn	n/a	Critical Line 2 default is activated
1.3.6.1.4.1.20044.21.10.45	ms430580mLine2CritGoesOff	n/a	Critical Line 2 default disappeared
1.3.6.1.4.1.20044.21.10.50	ms430580mPowerTrapUrgentGoesOn	n/a	Urgent power supply default is activated
1.3.6.1.4.1.20044.21.10.51	ms430580mPowerTrapUrgentGoesOff	n/a	Urgent power supply default disappeared

Front Panel Layout

The MS430580M occupies one slot in the MICROSENS chassis. Line and Client interfaces are SFP cages capable of hosting standard SFP modules.

Figure 1: MS430580M front panel layout.

Technical Specifications

Type	Media Converter/Signal Repeater	
Connectors	SFP ports	
Data rate	from 125 Mbps up to 2.67 Gbps	
LED displays	*SW*	Software loading
	HW	Hardware ready
	Los	Signal lost
	Fail	Transmission failure
Power consumption	8 W typical	
	10 W max	
Operating temperature	0°C to 50°C	
Storage temperature	-20°C to 85°C	

Order Information

Art. No.	Description	Connectors
MS430580M	3R Retimer Module (FE, 1GbE, 1GFC, 2GFC, 155Mb/s, 622Mb/s, 2,5Gb/s) Port 1&2: SFP Slots (not included)	SFP

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